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A0060Q-US-NP

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Robert M. Coleman

Group Art Unit: 2624

Application No.: 10/024,219

Examiner: Dillon J. Murphy

Filed: December 21, 2001

Confirmation No.: 9057

For: PRINTING METHOD

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Sir:

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES****LETTER**

Enclosed herewith is an original Appellant's Brief on Appeal in the above-identified application.
An oral hearing is not requested.

Please charge the fee for filing of the Appeal Brief to Xerox Corporation, Deposit Account No. 24-0025.

No additional fee is believed to be required; however, the undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation, Deposit Account No. 24-0025.

Respectfully submitted,

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Signature under 37 CFR 1.33 & 34

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PATENT APPLICATION

JUN 9 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

Confirmation No.: 9057

Robert M. Coleman

Application No.: 10/024,219

Examiner: Murphy, Dillon J.

Filed: 12/21/2001

Docket No.: A0060Q-US-NP

For: PRINTING METHOD

BRIEF ON APPEAL

Appeal from Group 2624

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Application No.

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1. REAL PARTY IN INTEREST

The real party in interest for this appeal and the present application is Xerox Corporation, by way of an Assignment recorded in the U.S. Patent and Trademark Office at Reel 12411, Frame 834-835.

II. STATEMENT OF RELATED APPEALS AND INTERFERENCES

Following are identified any prior or pending appeals, interferences or judicial proceedings, known to Appellant, Appellant's representative, or the Assignee, that may be related to, or which will directly affect or be directly affected by or have a bearing upon the Board's decision in the pending appeal:

- 1) Application No. 10/024,726 (Attorney Docket No. A0059-US-NP) on appeal.
- 2) Application No. 10/024,727 (Attorney Docket No. A0059Q-US-NP) on appeal.
- 3) Application No. 10,023,644 (Attorney Docket No. A0060-US-NP). Notice of allowance mailed 07-05-2005; issue fee payment received 07-22-2005; reverse issue fee 07-22-2005; abandonment for failure to pay issue fee 11-21-2005; issue fee payment received 12-13-2005; petition entered 12-13-2005.

Note that all cases have the same inventor; all cases were filed on the same day.

III. STATUS OF CLAIMS

Claims 1-10 are on appeal.

Claims 1-10 are pending.

Claims 1-10 are rejected.

IV. STATUS OF AMENDMENTS

No Amendment After Final Rejection has been filed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention of Claim 1 is directed to a method of creating a page description language description of an electronic document; comprising: providing an electronic document, wherein the electronic document includes at least one image object; converting the electronic document into print data and rendering data in accordance with a page description language to generate a PDL file; associating at least one printer-independent print-quality characteristic with the at least one image object (patent application hereinafter "pa" | page 5, lines 18-23); wherein a printer independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature (pa page 7, lines 17-21), such that when printer-dependent imaging actions are associated with the printer-independent print-quality characteristic, the printer-dependent imaging actions taken by the printer achieve the feature of the image element to be preserved during rendering (pa page 10, lines 21-25); and inserting the association information in the PDL file (pa page 5, lines 23-24).

The invention of Claim 10 is directed to the method of Claim 1, wherein the printer-independent print-quality characteristics comprise at least one of "make sharp edges", "reduce moiré", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moiré", "uniform gloss", "distinctness" and "compress without loss of detail" (pa page 7, lines 21-25).

VI. GROUNDs OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review:

- 1) Claims 1-7, 9 and 10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Smith et al. (U.S. Patent No. 5,704,021), Parkhurst et al. (U.S. Patent No. 5,642,474), Parkhurst et al. (Hewlett Packard Journal, February 1994) and Demmer (U.S. Patent No. 5,668,931).
- 2) Claim 8 is rejected under 35 U.S.C. §103(a) as being unpatentable over Smith et al. (U.S. Patent No. 5,704,021), Parkhurst et al. (U.S. Patent No. 5,642,474), Parkhurst et al. (Hewlett Packard Journal, February 1994) and Demmer (U.S. Patent No. 5,668,931) as applied to Claim 3, and further in view of Palmer (U.S. Patent No. 6,078,403).

VII. ARGUMENT

Appellant's invention enables any user to specify how his print job is to be output without having a detailed knowledge or understanding of how a particular printer achieves a particular output effect. Appellant's invention achieves this through the use of printer-independent print quality characteristics (or features). A printer-independent print-quality characteristic is an instruction associated with an image element, such as object type, in an electronic page, which indicates printer-independent features that are preferentially emphasized when printing the element. Examples of printer-independent print quality characteristics include "make sharp edges", "reduce moiré", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors" and "compress without loss of detail". A printer-independent print-quality characteristic is an instruction that is understandable to a user, but not to a printer. A printer-independent print-quality characteristic is a characteristic that any user can understand and use to achieve the type of output that he desires. When a user specifies that a particular object or image element is to have "sharp edges", the user does not have to know how a particular printer will achieve this result. A user could care less which halftone screen is used; the user only cares that his output element has "sharp edges".

A. Claims 1-7, 9 and 10 are patentable under 35 U.S.C. §103(a) over Smith et al. (U.S. Patent No. 5,704,021), Parkhurst et al. (U.S. Patent No. 5,642,474), Parkhurst et al. (Hewlett Packard Journal, February 1994) and Dermer (U.S. Patent No. 5,668,931).

U.S. Patent 5,704,021 to Smith et al., "Adaptive Color Rendering By an Inkjet Printer Based on Object Type," describes a method of using a printer system for identifying one or more different types of color objects in a document, selecting a preferred rendering option such as halftoning and/or color matching for each one of such different color object types, respectively, and then printing the document in accordance with the rendering options selected for each of such different color object types. U.S. Patent 5,642,474, to Parkhurst et al., "Arbitrary Masking Technique for Filling in Shapes for Display" describes a method for filling in arbitrary shapes with a pattern that is modified by requiring the fill pattern to be transmitted once to the printer instead of twice. The 1994 article by Parkhurst et al., "Connectivity of the HP DeskJet 1200C"

Printer" describes the software and firmware components of the 1200C printer used to achieve print solutions. U.S. Patent 5,668,931 to Dermer, "Method for Automatic Trap Selection for Correcting For Plate Misregistration in Color Printing," describes a method for automatic compensation for misregistration of printing plates in printing of polychromatic document pages or images, in which a trapping image is superposed upon the structured graphic image representing the layout of the document page or image from which it was derived, so as to prevent light leaks and other errors at the boundaries between color regions with the image. U.S. Patent 6,078,403 to Palmer, "Method and System for Specifying Format Parameters of a Variable Data Area Within a Presentation Document" describes a method of processing formatting parameters of a variable data area within a base document.

None of the references cited teaches or suggests Appellant's method of creating a page description language description of an electronic document which includes "associating at least one printer-independent print-quality characteristic with the at least one image object; wherein a printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature, such that when printer-dependent imaging actions are associated with the printer-independent print-quality characteristic, the printer-dependent imaging actions taken by the printer achieve the feature of the image element to be preserved during rendering."

1. Claims 1-7, 9

a. "Halftoning and/or color matching" as defined in Smith et al. are printer-dependent processes.

The Examiner asserts that Smith et al. discloses "associating at least one printer-independent print-quality characteristic with the at least one image object" citing the setting of color modes for different object types. Citing a color mode with an object type is not the same as associating a "printer-independent print-quality characteristic with the at least one image object; wherein a printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without

specifying any printer-specific imaging actions needed to achieve the feature". The color modes of Smith et al. are pre-defined imaging actions specific to the particular printer.

In Smith et al., the user who wishes to manually set the printer options for his document is presented with the ability to select automatic color or manual color. Under the manual color options shown in Fig. 5 of Smith et al. the user can select under "Print Color Control" any of "vivid color 82", "match screen 83" and "no adjustment 84" and assign his selection to text 85, graphics 86 or photo 87. Under "Halftoning", the user can select any of "cluster 91", "pattern 92" and "scatter 93" and assign his selection to text 85, graphics 86 or photo 87. The user can also vary the lightness of the entire document in box 96. Each of these selections is a printer-dependent process and has associated with it the appropriate map to achieve the specified result.

Each halftone screen (cluster, pattern or scatter) is specific to that printer. Each color control ("vivid color", "match screen" and "no adjustment") is a specific process (color map) for that printer. When a user makes a selection from the controls shown on Fig. 5 of Smith et al., the user is selecting the particular printer-dependent print process to use.

If a user wanted to "indicate a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature," such as, for example, "make sharp edges", using Smith et al., the user could not because no such option exists in Smith et al. If a user wanted to try to simulate "make sharp edges" for a particular graphic in Smith et al., the user would have to know (or guess through trial and error) which, if any, halftoning screen (cluster, pattern or scatter) would achieve that result. Similarly, if a user wanted to "indicate a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature," such as "reduce moiré", the user would not know/guess if "vivid color" or "match screen" or "no adjustment" would achieve that result. Smith et al. provides no such option for "indicating any feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature."

Specifying a halftone screen (or other category specified in Smith et al.) is tantamount to specifying a tool of the printer to achieve a particular halftone result. Specifying a halftone screen is not the same as "indicating a feature of an image element that is to be preserved during

rendering without specifying any printer-specific imaging actions needed to achieve the feature."

b. In Parkhurst (474) an attribute is not a feature of an image element to be preserved during rendering.

The Examiner stated that Parkhurst (474) "discloses inserting the association information in the PDL file (citing col. 4, lines 12-13, PCL file is sent to printer, therefore, print data in the form of the PDL file comprises association information)." Parkhurst (474) at col. 4, lines 11-16 states: "In preferred embodiment, the printer instructions are transmitted to the printer in a PCL-5C formatter. The PCL-5C formatter architecture used by the printer is based on the construction of a display list of objects that are generated by a language parser from the incoming PCL data stream."

Parkhurst (474) at col. 4, lines 26-29 states: "Other than the basic object definitions, the display list also receives certain attributes, such as foreground color, pattern and ROPs [raster operation process], that characterize the nature of the display list objects in its rendering process." Such "attributes" associated with an object definition are believed to be printer dependent imaging actions and not a "printer-independent print-quality characteristic with the at least one image object; wherein a printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature". Such attributes may also be considered an image element. For example, the attribute "foreground color" is an image element. A feature of that image element (foreground color) to be preserved during rendering without specifying any printer-specific actions needed to achieve the feature might be "maximum tone depth".

c. In the Parkhurst journal article, specifying print attributes in a device independent fashion is not the same as specifying a "printer-independent print-quality characteristic comprising instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature."

The Parkhurst journal article describes "allowing the applications to specify attributes and lay down geometrical shapes in a device independent fashion" citing page 87, first paragraph under "Raster Operation". For example, a device independent description of the geometrical shape "circle" is achieved by identifying its radius. This attribute of the circle (its

radius) is not "a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature." A feature of the circle that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature might be, for example, "distinguish tone and edges".

d. In Dernier, specifying trapping parameters is not "indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature."

Trapping is required in multi-pass print jobs: print jobs where each page is printed separately for each color on the page. Printing the cyan elements, for example, on a page that had first been printed magenta, may result in misregistration between some of the image elements – at the border where cyan and magenta images overlap. Appellant believes that the printer-independent print quality characteristic, i.e., the "feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature" in this instance would be "preserve edges between images of different colors" or "distinguish neighboring colors". And, indeed, the printing system might associate "preserve edges between images of different colors" or "distinguish neighboring colors" with a trapping algorithm (the imaging actions taken by the printer to achieve the feature of the image element to be preserved during rendering) to achieve the desired result.

2. Claim 10

Nothing in any of the references cited teaches or suggests, printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature, such as "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moire", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moire", "uniform gloss", "distinctness" and "compress without loss of detail" as claimed by Appellant.

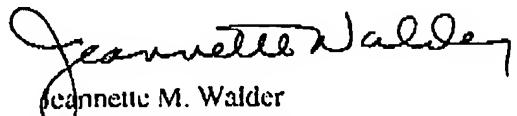
B. Claim 8 is patentable under 35 U.S.C. §103(a) over Smith et al. (U.S. Patent No. 5,704,021), Parkhurst et al. (U.S. Patent No. 5,642,474), Parkhurst et al. (Hewlett Packard Journal, February 1994) and Dernier (U.S. Patent No. 5,668,931) as applied to Claim 3, and further in view of Palmer (U.S. Patent No. 6,078,403).

Palmer was cited for teaching "adding PDL comments for each object descriptor." Nothing in Palmer overcomes the lack of teachings in any of the other references cited with regard to Claims 1 and 3 as discussed by Appellant above with regard to Claim 1.

VIII. CONCLUSION

For all of the reasons discussed above, it is respectfully submitted that the rejections are in error and that Claims 1-10 are in condition for allowance. For all of the above reasons, Appellant respectfully requests this Honorable Board to reverse the rejections of Claims 1-10.

Respectfully submitted,



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Date: June 9, 2006

CLAIMS APPENDIX

CLAIMS INVOLVED IN THE APPEAL:

1. (Previously Presented) A method of creating a page description language description of an electronic document; comprising:

providing an electronic document, wherein the electronic document includes at least one image object;

converting the electronic document into print data and rendering data in accordance with a page description language to generate a PDL file;

associating at least one printer-independent print-quality characteristic with the at least one image object;

wherein a printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature, such that when printer-dependent imaging actions are associated with the printer-independent print-quality characteristic, the printer-dependent imaging actions taken by the printer achieve the feature of the image element to be preserved during rendering; and

inserting the association information in the PDL file.

2. (Original) The method of claim 1, wherein the image object has an object type and wherein the associating step comprises the steps of:

providing a list of object types;

providing a list of printer-independent print-quality characteristics;

selecting the image object's object type from the list of object types; and

associating at least one printer-independent print-quality characteristic with the selected object type.

3. (Original) The method of claim 1, wherein the associating step comprises the steps of:

providing a list of object descriptors for the image object; and

associating at least one printer-independent print-quality characteristics with each of said object descriptors.

4. (Original) The method of claim 3, further comprising:
defining a custom object descriptor for the image object;
adding the custom object descriptor to the list of object descriptors; and
associating at least one printer-independent print-quality characteristics with said custom object descriptor.

5. (Original) The method of claim 1, further comprising providing a default set of associations for use by the page description language, wherein the default set comprises a plurality of object types and at least one printer-independent print-quality characteristic associated with each of said plurality of object types; and
inserting the default set in the PDL file.

6. (Original) The method of claim 3, further comprising: inserting the list of object descriptors for the image object in the PDL file.

7. (Original) The method of claim 1, further comprising:
identifying locations of the at least one image object in the document; and
inserting the printer-independent print quality characteristic at the identified location with the image object.

8. (Original) The method of claim 3, further comprising adding PDL language comments for each object descriptor.

9. (Previously Presented) The method of claim 1, further comprising inserting the association information in the PDL file by location of the particular image object.

10. (Previously Presented) The method of claim 1, wherein the printer-independent print-quality characteristics comprise at least one of "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moire", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moire", "uniform gloss", "distinctness" and "compress without loss of detail".

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Application No. 10/024,219

EVIDENCE APPENDIX

NONE

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Application No. 10/024,219

RELATED PROCEEDINGS APPENDIX

NONE

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